Bush Declaration Ex. I

TX 0158

From:	andyt@google.com.	Sent:9/28/2006 8:05 PM.
To: [-]	tangjianfeng@chinamobile.com.	
Cc: [-]	billwli@google.com; arubin@google.com.	
Bcc: [-]	.	
Subject:	Materials on Google Open Handset OS.	

Dir. Tang,

Pls see attached for the materials on our open handset OS.

Let me know if you need more info,

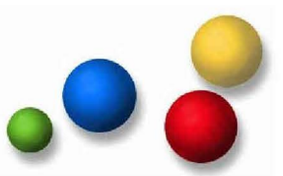
Thanks!

Andy

Google™

android

Open Handset Platform



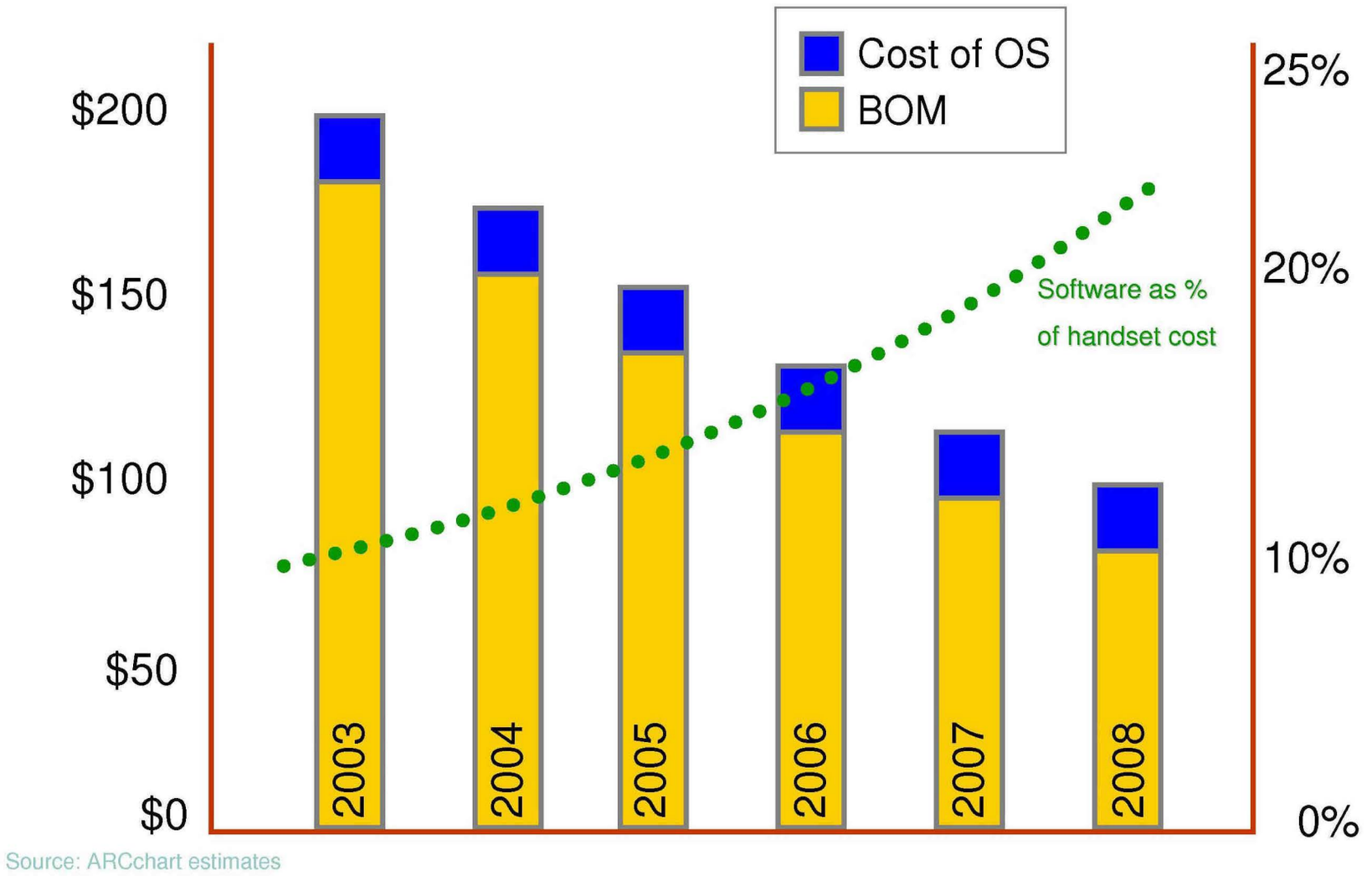
Introduction

Google

We are building an Open Source handset solution with built-in Google applications

We have created an alliance of interested partners who wish to help define the platform

Handset Commoditization



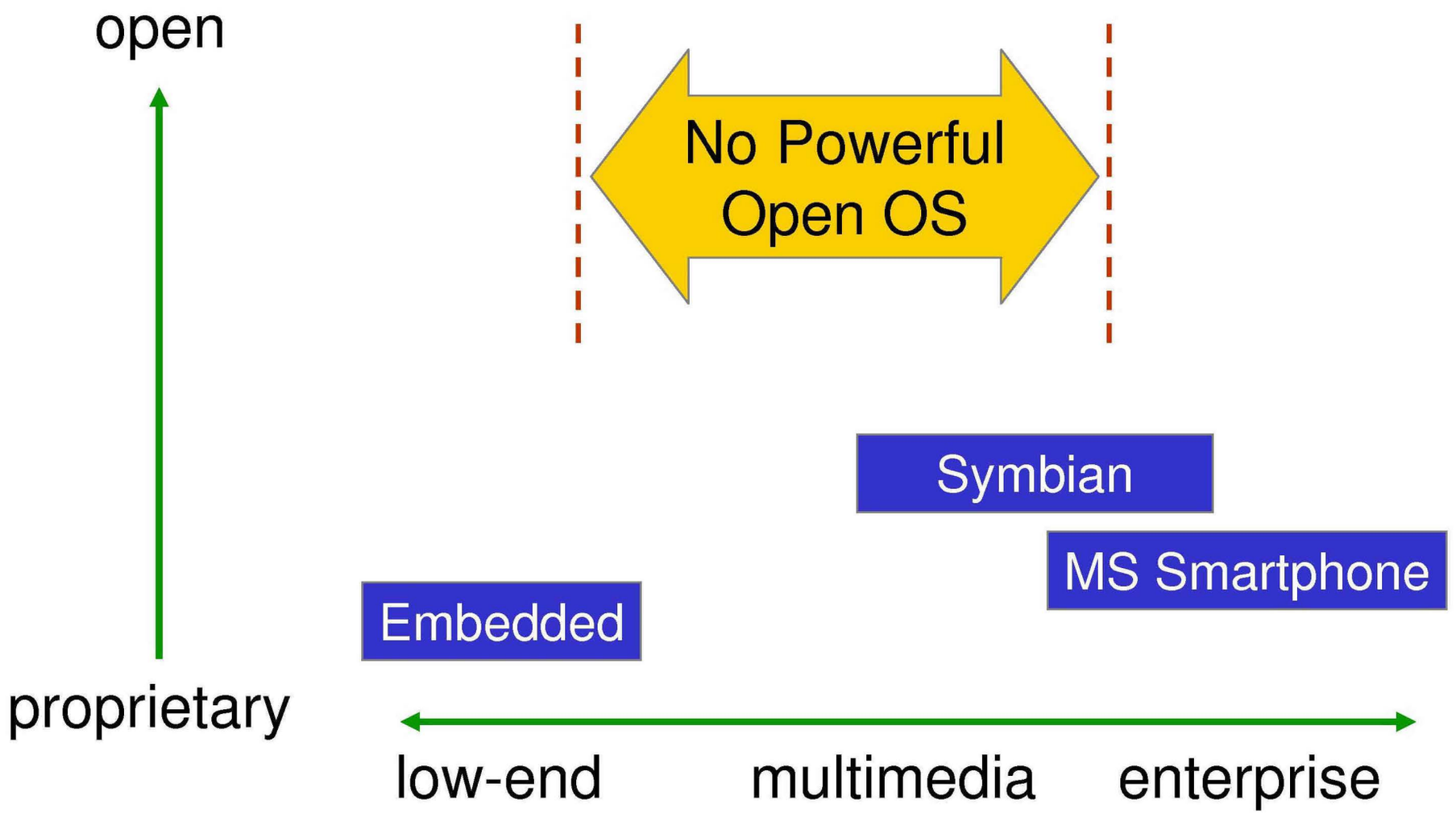
Source: ARCchart estimates

BOM = Bill of Materials, hardware cost of phone

The Problem

- Hardware innovation has out paced software innovation
- Wireless Operators have become more demanding of software capabilities, need ability to differentiate
- Handset OEMs are not modern software development shops and have proved weak at being integrators

The Gap



Improving the core platform

- Proven Open Source platform has worldwide adoption
- Linux kernel enables hardware abstraction
- World class XML based graphics subsystem enables high performance carrier customization
- Telephony API's support multiple semiconductor architectures
- Application stack supports Smartphone-like feature set
- Simulation environment supports off-device development
- UI mark-up tool enables point and click UI creation

Improving the core platform (cont'd)

- Google & Alliance will make the integrated Java/Linux Mobile Platform available through an open source distribution
- Companies will be able to adopt this solution and customize for their own devices & network... Including components, applications and branding
- The Java platform will be CDC based with the ability to run all the midlet-base content
- Application framework and optimized graphics system built on top of Linux kernel

A complete stack is the way to accelerate adoption

Google

Fact: Industry noise around Linux is at its all-time high. Still, no one is offering a complete platform in an open way -- instead, we find people using open source as a marketing advantage, and offer only certain layers of the stack. Examples:

- Access/PalmSource: Using Linux to build a closed system
- Motorola/Samsung/NTT/Vodafone-Japan: Trying to specify apps environment.

  Where are the software companies?
- TrollTech: Green Phone. NOT OPEN.
- MLI, LiPS: Specification only, no implementation.

Strategy: Open Source the entire stack only after the first devices show up in the market. Send a strong signal to the industry that they now have everything they need to build devices as-good-as or better than the ones we just released.

Supporting Java is the best way to harness developers

Fact: Linux fragmentation threatens value. Tools and new app frameworks are biggest hurdles. 6M Java developers worldwide. Tools and documentation exist to support app development without the need to create a large developer services organization. There exist many legacy Java applications. The wireless industry has adopted Java, and the carriers require its support.

Strategy: Leverage Java for its existing base of developers. Build a useful app framework (not J2ME). Support J2ME apps in compatibility mode. Provide an optimized JVM (Dalvik). Integrate class libraries and other technology from Skelmir acquisition to accelerate effort.

Details

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How China Mobile can participate and what benefits it can reap

Google invites China Mobile to be one of the first carriers to embrace an open OS and make a significant impact on the mobile industry, no just in China, but worldwide

As a participant, China Mobile will be able to

- Help shape the OS platform requirements with carrier services in mind
- Deploy its next generation mobile devices & services based on this platform
- Develop together with Google an innovative handset using the OS to demonstrate power of the open platform

Benefits of working with Google

- Google has the best mobile software industry experts
- Google's OS is the most open platform with the most flexible license
- Google has tremendous expertise in user-centric software design
- Google will invest to help China Mobile succeed

Appendix – Google handset OS architecture